

ROBERT W. ENGEL & ASSOCIATES, ARCHITECTS  
2110 South 156<sup>th</sup> Circle  
Omaha, Nebraska 68130-2503

(402) 330-8287  
FAX (402) 330-8331

---

ADDENDUM # 1  
July 11, 2016

RE: Northwest Housing  
Omaha, NE

To: All Plan Holders

This addendum is hereby made a part of the Contract Documents to the extent as though it were originally included therein. Specifications and Drawings shall be considered modified or revised as hereinafter described.

Revisions to the Specifications are referenced by page number and paragraph heading on that page. Items of general information are included without reference to the Plans and Specifications. Revisions to the Drawings are referenced by the drawing number.

This addendum consists of page 1 and 2 plus attachments.

Add the following information.

Instructions to Bidders – Pages 1-4 (REVISED)  
Minority Business and Women Business – Pages 1-8  
Section 3 Clause – Pages 1-3  
Equal Opportunity Clause – Pages 1-2

#### SPECIFICATIONS

Section 01800 Geotechnical Data: Add this Section and Geotechnical Exploration Report by Thiele Geotech Inc dated April 11, 2016.

Section 07311 Asphalt Shingles: Add the following approved shingle GAF Timberline.

Section 08561 Vinyl Windows: Add the following Approved window Andersen Silverline.

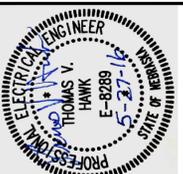
#### DRAWINGS

Sheet A7.1, Room Finish Schedule General Notes: Add Note 6. Laminate Wood Flooring in Kitchen and Dining Rooms shall be Armstrong, Parallel 20, Russet J6209 6" x 36".

Sheet M2.1, Delete this sheet in its entirety and substitute new revised Sheet M2.1 with revision date of 7/9/2016.

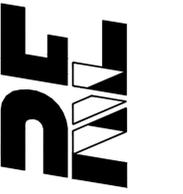
Sheets E2.1 and E2.2, Deleted these sheets in their entirety and substitute new sheets E2.1 and E2.2 with revision date of 7/11/2016.





NORTHWEST HOUSING  
92nd & MILITARY ROAD  
OMAHA, NEBRASKA

ROBERT W. ENGEL AND ASSOCIATES, ARCHITECTS  
2110 South 156th Circle  
Omaha, NE 68130-2503  
(402) 330-8287 Fax: (402) 330-8331  
email: RWEArchitects@RWEArchitects.com



Issue Date: May 27, 2016

Revisions to the drawing set

No.	Date	No.	Date
1	07/11/16		

Project Number: 3814  
Drawn by: BAN  
Checked by: TVH  
Sheet Name: POWER FLOOR PLAN

E2.1

PANELBOARD NO. "A"  
SECTION 1 MOUNTING FLUSH  
VOLTAGE 120/240 PHASE 1 WIRE 3  
MAIN 150 MAIN BUS 150 AMP

TYPICAL PANELBOARD SCHEDULE FOR ALL APARTMENT UNITS

CKT. NO.	DESCRIPTION	VA		BREAKER		BREAKER		VA		DESCRIPTION	CKT. NO.
		A	B	AMPS	POLES	AMPS	POLES	A	B		
1	LIGHTING	800		15	1	15	1	500		CONV. RECEPTACLES	2
3	LIGHTING		800	15	1	15	1	500		CONV. RECEPTACLES	4
5	MASTER BATH GFI	180		20	1	20	1	200		BATH RECEPTACLE	6
7	PATIO GFI	180		20	1	20	1	600		MICROWAVE	8
9	DISPOSAL	500		20	1	20	1	1500		KITCHEN RECEPTACLE	10
11	DISHWASHER	1200		20	1	50	2	4000		RANGE	12
13	DRYER		2250	30	2			4000			14
15		2250		20	1	20	1	600		KITCHEN RECEPTACLE	16
17	HP-1	1403		20	2	20	1	800		REFRIGERATOR	18
19		1403		20	1	20	1	500		WASHER	20
21	CONV. RECEPTACLE	500		15	1	30	2	2250		WH-1	22
23	CONV. RECEPTACLE	500		15	1						24
25	F-1	5000		60	2	20	1	360		PORCH/GARAGE GFI	26
27		5000		20	1	20	1	200		GARAGE DOOR OPEN	28
29	FUTURE RADON EQ	200		20	1					SPACE	30

\* ALL 15 & 20 AMP CIRCUIT BREAKERS SHALL BE ARC-INTERRUPTING TYPE CIRCUIT BREAKERS EXCEPT BATHROOM RECEPTACLES 120V ONLY NOT REQUIRED ON 208V CIRCUITS.

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

ITEM	VOLTS	Ø	MCA	FEEDER CIR. BKRR.	DISC. SWITCH	FUSE SIZE	WIRE QUAN./SIZE	GRD.	COND. SIZE
HP-1	230	1	12.2	20/2	30A		2 - #12	12	3/4"
F-1	230	1	43.5	60/2	60A		2 - #4	10	1 1/4"
WH-1	230	1	20	30/2	30A		2 - #10	10	3/4"
RANGE	230	1	35	50/2			2 - #6	10	1"
DRYER	230	1	20	30/2			2 - #10	10	3/4"

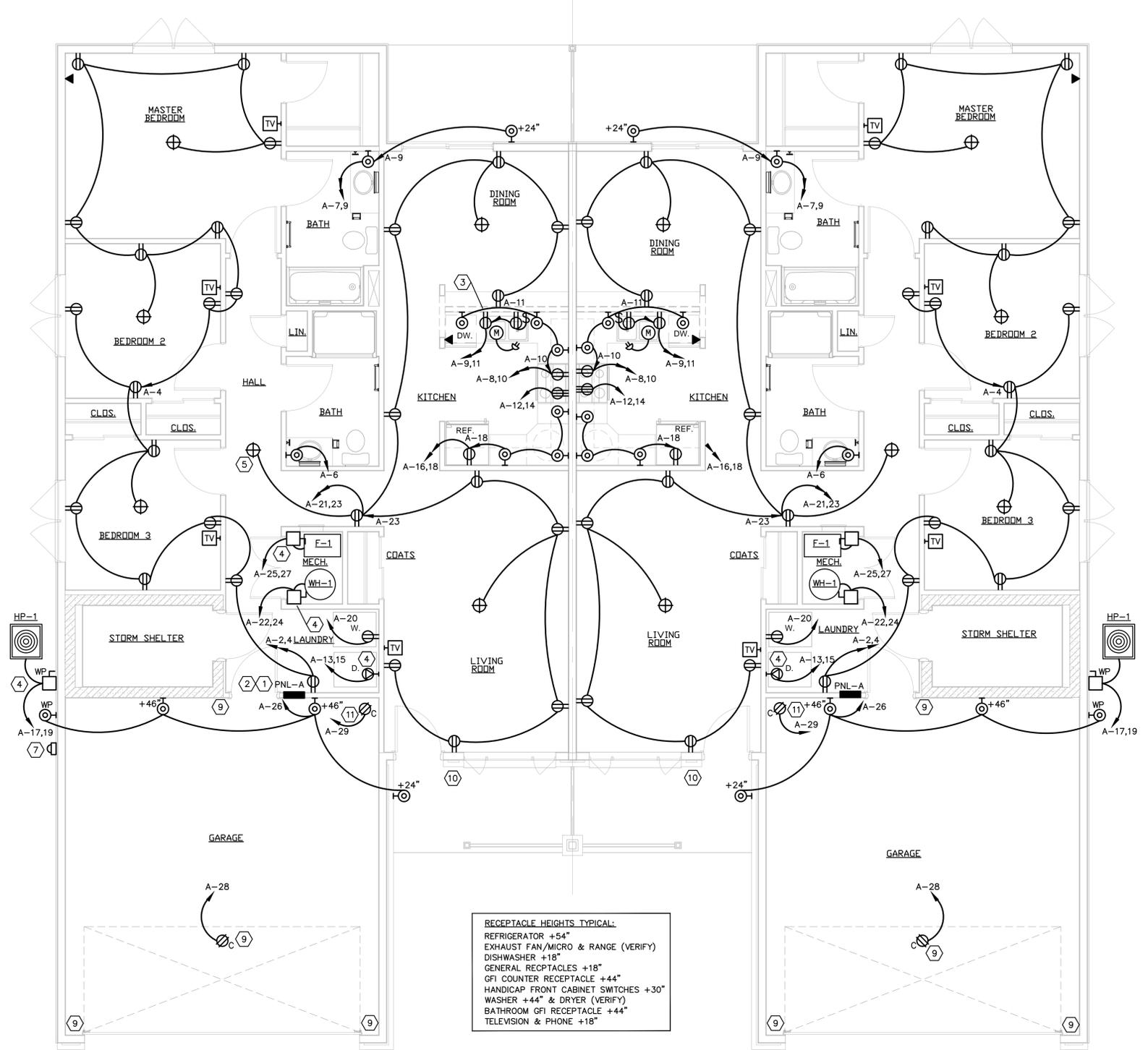
VERIFY CONNECTION WITH NAMEPLATE RATING PRIOR TO INSTALLATION. ADJUST FEEDER AND OVERCURRENT ACCORDINGLY.  
\* CIRCUIT BREAKERS SHALL BE HACR BREAKERS AND NON FUSED DISCONNECTS.

NOTES:

- COORDINATE LOCATION OF PANELBOARD WITH MECHANICAL CONTRACTOR, NO DUCTWORK OR PIPING ALLOWED ABOVE PANEL.
- SEE PANELBOARD SCHEDULE THIS SHEET TYPICAL FOR CIRCUITING AND ONE LINE DIAGRAM SHEET E2.1.
- RECEPTACLE SERVING DISHWASHER SHALL BE LOCATED BELOW SINK, TYPICAL FOR ALL UNITS.
- SEE EQUIPMENT SCHEDULE SHEET E2.1 FOR WIRING AND CONNECTIONS.
- SMOKE ALARMS ARE 120V WITH BATTERY BACKUP AND ARE TIED TOGETHER SO THAT WHEN ONE ALARM SOUNDS THEY ALL SOUND AN ALARM.
- VERIFY NEMA CONFIGURATION PRIOR TO INSTALL.
- METER LOCATION MAY CHANGE PER OPPD METER SPECIFICATIONS FOR EACH UNIT.
- FURNISH AND INSTALL A GFI TYPE CIRCUIT BREAKER TO SERVE DISHWASHER RECEPTACLE.
- FURNISH AND INSTALL LOW VOLTAGE WIRING BETWEEN GARAGE DOOR OPEN BUTTON, SENSORS AND GARAGE DOOR OPERATOR.
- FURNISH AND INSTALL LOW VOLTAGE WIRING BETWEEN DOOR BELL, TRANSFORMER AND FRONT DOOR BUTTON AND PROVIDE DOOR BELL SYSTEM.
- FURNISH AND INSTALL CEILING MOUNTED RECEPTACLE FOR FUTURE RADON FAN.

SYMBOL LEGEND

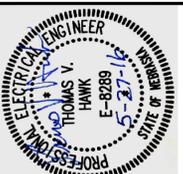
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
⊙	LIGHT FIXTURE (NUMBER DENOTES TYPE)	⊙	GENERAL NOTES
⊗	EXIT LIGHT (NUMBER DENOTES TYPE)	⊙	DRYER RECEPTACLE VERIFY NEMA CONFIGURATION
⊕	JUNCTION BOX	⊙	THERMAL ELEMENT SWITCH
⊕	20A 125V 2P 3W GROUNDING DUPLEX RCPT. (5-20R)	⊙	TV OUTLET FURNISH & INSTALL COAXIAL CABLE AND JACK
⊕	GFI TYPE DUPLEX RECEPTACLE WITH BUILT IN GROUND FAULT INTERRUPTION 5MA, 20A 125V 3W	⊕	FIRE ALARM SMOKE DETECTOR
⊕	DUPLEX RECEPTACLE WITH TOP HALF SWITCHED	⊕	FIRE ALARM HEAT DETECTOR
⊕	20A 125V 2P 3W DOUBLE DUPLEX RCPT. (5-20R)	■	PANELBOARD
⊕	20A 125V 2P 3W FLOOR DUPLEX RCPT. (5-20R)	⊕hc	FIRE ALARM HANDI-CAP DETECTOR WITH INTEGRAL STROBE SIMPLEX CATALOG #2098-9694-WW
⊕	RANGE RECEPTACLE NEMA 14-50 (125/250V 50A)	⊕	SMOKE DETECTOR FOR DUCTWORK (ACTIVATION SHALL SHUT DOWN RTU PER NFPA 90)
⊕	SWITCH SINGLE POLE	⊕	FAN SHUT DOWN RELAY
⊕	SWITCH 3-WAY	⊕	FIRE ALARM AUDIO VISUAL HORN
⊕	SWITCH 4-WAY	⊕	FIRE ALARM VISUAL STROBE (STANDARD 15 CANDELA PROVIDE GREATER AS REQUIRED TO MEET ADA REQUIREMENTS)
⊕	MOTOR (NUMBER DENOTES HP SIZE)	⊕hc	FIRE ALARM HANDICAP STROBE TO BE CONNECTED TO MAIN FIRE ALARM SYSTEM SIMPLEX #4904-9137
⊕	DISCONNECT SWITCH	WP	NEMA 3R WEATHER PROOF
⊕	COMBINATION MAGNETIC STARTER	⊕	TELEPHONE WALL OUTLET
⊕	BRANCH CIRCUIT HOMERUN (ARROWHEADS INDICATE NUMBER OF HOMERUN CIRCUITS)		



RECEPTACLE HEIGHTS TYPICAL:  
REFRIGERATOR +54"  
EXHAUST FAN/MICRO & RANGE (VERIFY)  
DISHWASHER +18"  
GENERAL RECEPTACLES +18"  
GFI COUNTER RECEPTACLE +44"  
HANDICAP FRONT CABINET SWITCHES +30"  
WASHER +44" & DRYER (VERIFY)  
BATHROOM GFI RECEPTACLE +44"  
TELEVISION & PHONE +18"

FURNISH AND INSTALL TAMPER-RESISTANT RECEPTACLES IN DWELLING UNITS IN ALL AREAS SPECIFIED IN NEC 210.52

POWER FLOOR PLAN  
SCALE: 1/4" = 1' - 0"



NORTHWEST HOUSING  
92nd & MILITARY ROAD  
OMAHA, NEBRASKA

ROBERT W. ENGEL AND ASSOCIATES, ARCHITECTS  
2110 South 156th Circle  
Omaha, NE 68130-2503  
(402) 330-8287 Fax: (402) 330-8331  
email: RWEArchitects@RWEArchitects.com



Issue Date: May 27, 2016  
Revisions to the drawing set

No.	Date	No.	Date
1	07/11/16		

Project Number: 3814  
Drawn by: BAN  
Checked by: TVH  
Sheet Name: HANDICAP POWER FLOOR PLAN

E2.2

PANELBOARD NO. "A"  
SECTION 1 MOUNTING FLUSH  
VOLTAGE 120/240 PHASE 1 WRE 3  
MAIN 150 MAIN BUS 150 AMP

TYPICAL PANELBOARD SCHEDULE FOR ALL APARTMENT UNITS

CKT. NO.	DESCRIPTION	VA		BREAKER		BREAKER		VA		DESCRIPTION	CKT. NO.
		A	B	AMPS	POLES	AMPS	POLES	A	B		
1	LIGHTING	800		15	1	15	1	500		CONV. RECEPTACLES	2
3	LIGHTING		800	15	1	15	1	500		CONV. RECEPTACLES	4
5	MASTER BATH GFI	180		20	1	20	1	200		BATH RECEPTACLE	6
7	PATIO GFI		180	20	1	20	1	600		RANGE EXHAUST	8
9	DISPOSAL		500	20	1	20	1	1500		KITCHEN RECEPTACLE	10
11	DISHWASHER	1200		20	1	50	2	4000		RANGE	12
13	DRYER		2250	30	2			4000			14
15			2250			20	1	600		KITCHEN RECEPTACLE	16
17	HP-1		1966	30	2	20	1	800		REFRIGERATOR	18
19			1967			20	1	500		WASHER	20
21	CONV. RECEPTACLE		500	15	1	30	2	2250		EW-1	22
23	CONV. RECEPTACLE		500	15	1						24
25	F-1		3750	50	2	20	1	360		PORCH/GARAGE GFI	26
27			3750			20	1	200		GARAGE DOOR OPEN	28
29	FUTURE RADON EQ		200							SPACE	30

\* ALL 15 & 20 AMP CIRCUIT BREAKERS SHALL BE ARC-INTERRUPTING TYPE CIRCUIT BREAKERS EXCEPT BATHROOM RECEPTACLES 120V ONLY NOT REQUIRED ON 208V CIRCUITS.

DUPLEX CALCULATION FOR NORTHWEST HOUSING PROJECT

Single Duplex Calculation

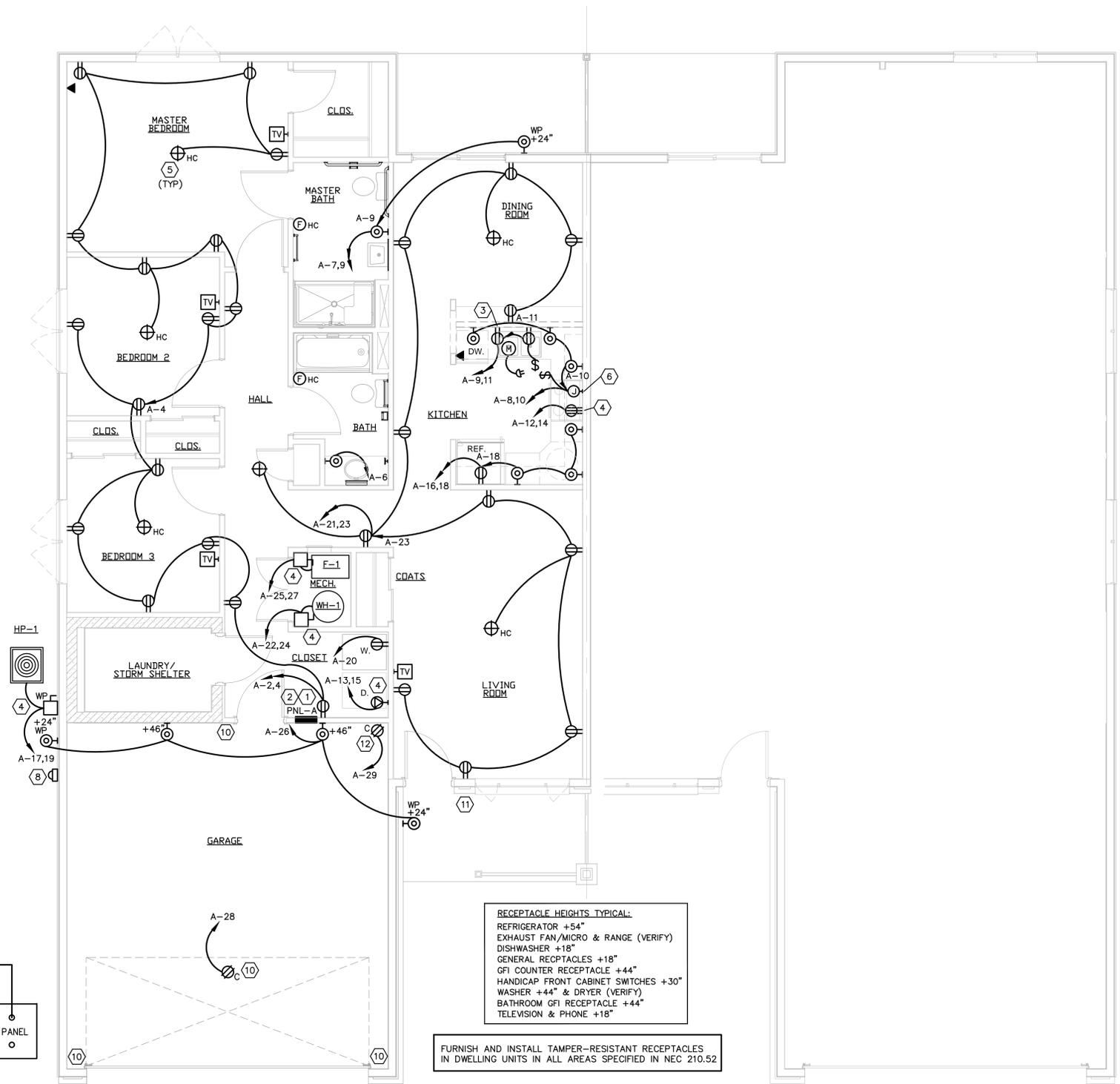
	Square Footage	at 3VA
General Lighting	1340	4020
Small App	1000	3000
		7020

App. Demand Factor (220.11)

	at Percentage
First 3000 at 100	3000
From 3001 to 120,000	1407
Net Computed Load (No Range)	4407

Range Load	8000
Washer	1500
Dryer	5500
Dish Washer	1200
Water Heater	4500
Net Computed Load (w/Range)	25107

120/240 volt single phase	104.6125
Air Conditioner / Heat (10kw)	43.5
	148

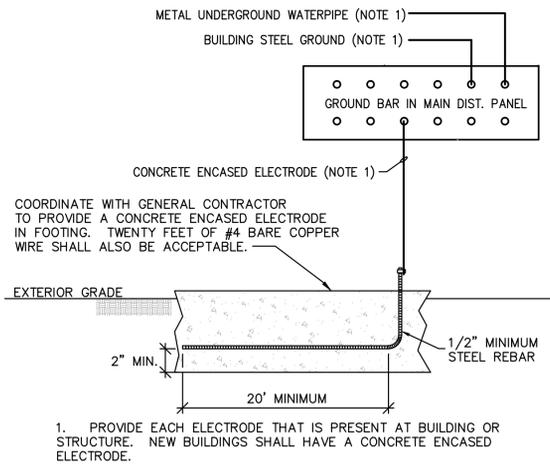


RECEPTACLE HEIGHTS TYPICAL:  
REFRIGERATOR +54"  
EXHAUST FAN/MICRO & RANGE (VERIFY)  
DISHWASHER +18"  
GENERAL RECEPTACLES +18"  
GFI COUNTER RECEPTACLE +44"  
HANDICAP FRONT CABINET SWITCHES +30"  
WASHER +44" & DRYER (VERIFY)  
BATHROOM GFI RECEPTACLE +44"  
TELEVISION & PHONE +18"

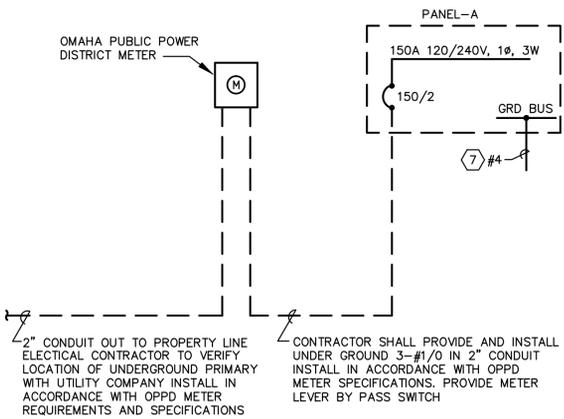
FURNISH AND INSTALL TAMPER-RESISTANT RECEPTACLES IN DWELLING UNITS IN ALL AREAS SPECIFIED IN NEC 210.52

- NOTES:
- COORDINATE LOCATION OF PANELBOARD WITH MECHANICAL CONTRACTOR, NO DUCTWORK OR PIPING ALLOWED ABOVE PANEL.
  - SEE PANELBOARD SCHEDULE THIS SHEET TYPICAL FOR CIRCUITING.
  - RECEPTACLE SERVING DISHWASHER SHALL BE LOCATED BELOW SINK, TYPICAL FOR ALL UNITS.
  - SEE EQUIPMENT SCHEDULE SHEET E2.1 FOR WIRING AND CONNECTIONS.
  - SMOKE ALARMS ARE 120V WITH BATTERY BACKUP AND ARE TIED TOGETHER SO THAT WHEN ONE ALARM SOUNDS THEY ALL SOUND AN ALARM.
  - HANDICAP APARTMENTS PROVIDE JUNCTION BOX FOR HOOD EXHAUST FAN.
  - SEE GROUNDING ELECTRODE DETAIL THIS SHEET.
  - METER LOCATION MAY CHANGE PER OPPD METER SPECIFICATIONS FOR EACH UNIT.
  - FURNISH AND INSTALL GFI TYPE CIRCUIT BREAKER TO SERVE DISHWASHER RECEPTACLE.
  - FURNISH AND INSTALL LOW VOLTAGE WIRING BETWEEN GARAGE DOOR OPEN BUTTON, SENSORS AND GARAGE DOOR OPERATOR.
  - FURNISH AND INSTALL LOW VOLTAGE WIRING BETWEEN DOOR BELL, TRANSFORMER AND FRONT DOOR BUTTON AND DOOR BELL SYSTEM.
  - FURNISH AND INSTALL CEILING MOUNTED RECEPTACLE FOR FUTURE RADON FAN.

HANDICAP POWER FLOOR PLAN  
SCALE: 1/4" = 1' - 0"



GROUNDING ELECTRODE SYSTEM  
NO SCALE



ONE LINE DIAGRAM  
NO SCALE

## INSTRUCTIONS TO BIDDERS

To be considered, bids must be made in accord with these Instructions to Bidders.

DEFINITION: Bidding Documents include the Invitation to Bid, Instructions to Bidders, Bid Form, other sample bidding and contract forms, and proposed Contract Documents including any Addenda issued prior to receipt of bids.

### BIDDING DOCUMENTS:

Bidding documents consisting of one hard copy and one digital electronic format disk will be provided to selected General Contractors. General Contractors shall be responsible to distribute documents to their respective sub-contractors and suppliers.

### MINORITY BUSINESS & WOMEN BUSINESS

The General contractor shall be required to follow the Minority Business & Women Business Enterprise Plan dated March 2011 as published by the City of Omaha Planning Department. This document is attached following instructions to bidders.

### SECTION 3 CLAUSE

The General contractor shall be required to follow the Section 3 Clause which is attached following the instructions to bidders.

### EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

The General Contractor shall be required to follow the Equal Employment Opportunity Clause which is attached following the instructions to bidders.

### QUESTIONS AND INTERPRETATIONS

Submit questions about Bidding Documents to the Architect-Engineer. Replies will be issued to Prime Bidders of record as Addenda to the Bidding Documents. The Architect-Engineer and the Owner will not be responsible for oral clarification. Questions received less than 48 hours before the Bid opening cannot be answered.

### SUBSTITUTIONS

To obtain approval to use unspecified products, Bidders shall submit written requests at least 5 days before the Bid date and hour. Requests received after this time will not be considered. Requests shall clearly describe the product for which approval is asked, including all data necessary to demonstrate acceptability. If the product is acceptable, the Architect-Engineer will approve it in an Addendum issued to Prime bidders of record.

### CONDITIONS OF WORK

Bidders shall carefully examine the Bidding Documents, construction site, and any applicable existing buildings to obtain firsthand knowledge of existing conditions. The Contractors will not be given extra payments for conditions, which can be determined by examining the site and Bidding Documents.

### SALES AND USE TAX

The Bidder shall include in his Bid all State and Local Option Sales and Use Tax for material incorporated into the complete project. The Bidder shall include State and Local Option Sales and Use Tax for materials which are used or consumed in the performing the Work but which are not incorporated into the completed project.

### BIDDING PROCEDURE

Bids shall be submitted on unaltered Bid Forms furnished by the Architect-Engineer. Each bid shall include the legal name of the Bidder, and shall show whether the Bidder is a corporation, a partnership, or a sole proprietor, or any other legal entity. A bid of a corporation shall give the State of incorporation, and shall have the seal affixed. A Bid of a partnership shall give the names of all the partners.

A Bid of a sole proprietor doing business under a trade name shall give the name of the sole proprietor and the trade name under which the individual is doing business.

Fill in all blank spaces for bid prices in ink or typewritten words, and submit one (1) copy. The Bidder must include all Alternates shown on the Bid Form if applicable. No segregated or qualified bid will be accepted.

Bidders submitting Bids for Combined Contracts shall enter the names of the Prime Subcontractors in blanks provided on the Bid Form.

Bids shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A bid submitted by an agent shall have a current Power of Attorney attached certifying the agent's authority to bind the Bidder.

### BID SECURITY

Bid security shall not be required

### SUBMISSION OF BIDS

Bids, together with required enclosures, shall be submitted in opaque, sealed, envelopes bearing on the outside the Bidder's name and address, the Project name, and portion of the project or category of work for which the Bid is submitted.

Bids sent by mail shall be enclosed in a separated mailing envelope with the notation "Bid Enclosed" on the face, and shall be addressed to the Owner as shown on the Bid Form.

Bids shall be deposited at the designated location prior to the time and date of receipt of Bids indicated in the Invitation to Bid. Bids received after the time and date for receipt of bids will be returned unopened.

### MODIFICATION OR WITHDRAWAL OF BID

Bid may not be modified, withdrawn, or canceled by the Bidder until thirty (30) days after the time and date for receipt of Bids.

Prior to the time and date for receipt of Bids, Bids submitted early may be modified or withdrawn only by notice to the party receiving Bids at the place and prior to the time designated for receipt of Bids. Such notice shall be in writing over the signature of the bidder. Modifications shall be so worded as not to reveal the amount of the original Bid. Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids.

### TIME OF COMPLETION

The General contractor shall state the amount of days it will take to complete the project on the bid form.

### CONSIDERATION OF BIDS

Opening of Bids. Bids will be privately opened.

Rejection of Bids, Informalities and Irregularities. The Owner shall have the right to reject any or all Bids. The Owner shall have the right to waive any informality or irregularity in any Bid received.

Acceptance of Bid. The Owner shall have the right to accept Alternates, if any, in any order or combination and to determine the low Bidder on the basis of the sum of the Base bid and the Alternates accepted.

It is the intent of the Owner to award a contract to the lowest responsible Bidder provided the Bid has been submitted in accord with the requirements of the Bidding Documents, is judged reasonable, and does not exceed the funds available.

## QUALIFICATION OF CONTRACTORS

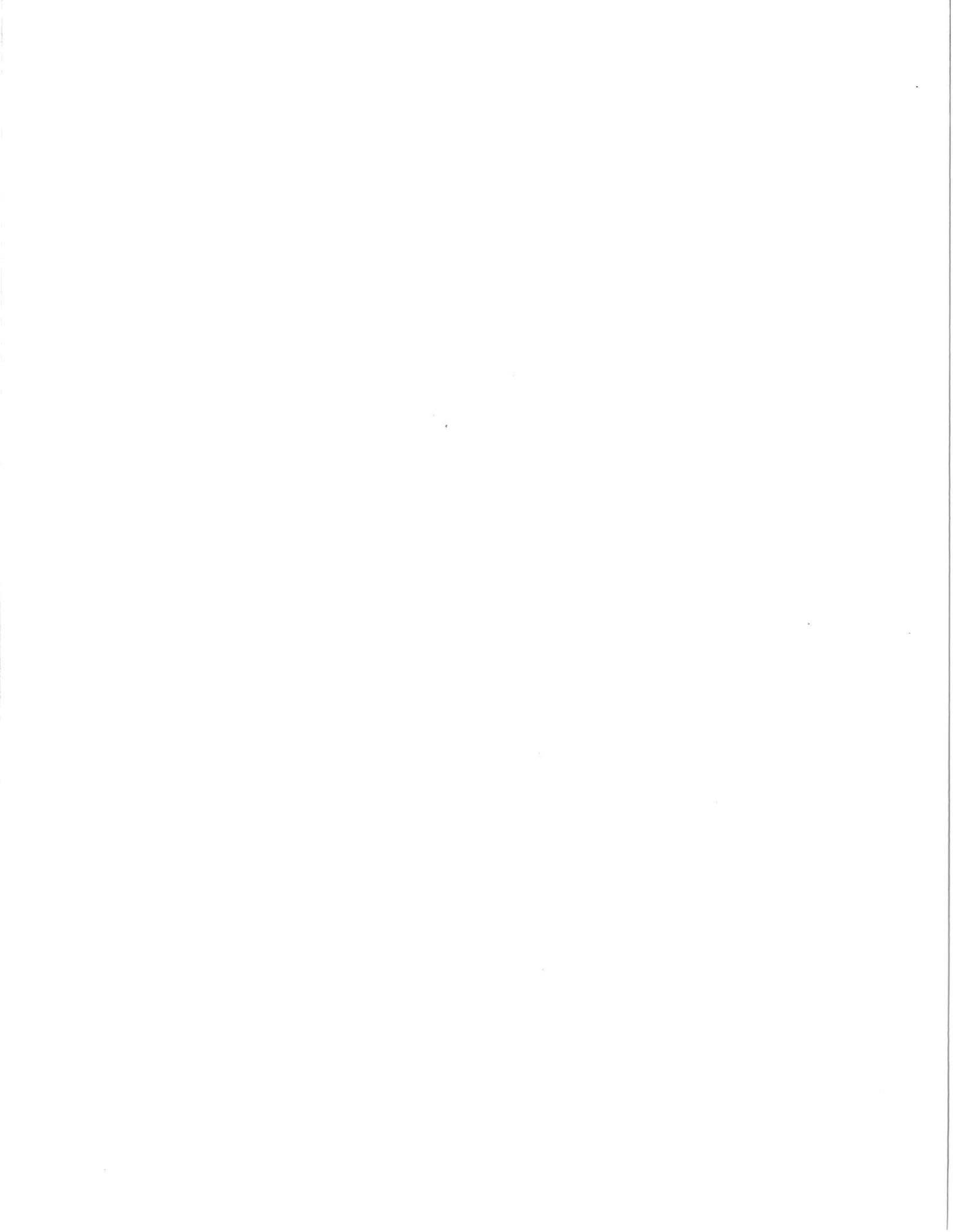
Qualification Statement. The Bidder shall submit with his Bid a properly executed Contractor's Qualification Statement and AIA Document A305. If the Bidder has on file with the Architect-Engineer a current Contractor's Qualification Statement, he need not submit one with his Bid.

Disqualification. The Owner reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with the intent to defraud or other illegal practices upon the part of the Bidder.

## POST – BID INFORMATION AND SUBMITTALS

Performance Bond and Labor and Material Payment Bond covering the faithful performance of the Contract and the payment of all obligations arising there-under, each in the amount of one hundred percent (100%) of the Contract Sum, shall be submitted in duplicate to the Architect – Engineer, together with the executed Owner – Contractor Agreements, within ten (10) days after notification of award of the Contract. Such bonds shall be issued by a surety company acceptable to the Owner and properly licensed in the State in which they are doing business, and shall be on AIA Document A311.

Form of Agreement for the Work will be written on the Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, AIA Document A101.



# MINORITY BUSINESS & WOMEN BUSINESS

## ENTERPRISE PLAN

March 2011



Jean Stothert, Mayor  
City of Omaha

PLANNING DEPARTMENT  
CITY OF OMAHA



PLANNING • OMAHA

James R. Thele  
City of Omaha  
Planning Department  
Omaha/Douglas Civic Center  
1819 Farnam Street  
Omaha, Nebraska 68183

*Reviewed and approved 3/28/2011*

# MINORITY BUSINESS/WOMEN BUSINESS ENTERPRISE PLAN

## INTRODUCTION

Minority and women business sectors play an important part in Omaha's overall plans for future growth, progress, and prosperity. It is vital to the City's economic condition and well-being that minority and women businesses expand, thrive and prosper, generating economic stability and increased job opportunities. Towards the fulfillment and accomplishment of these important objectives, the City of Omaha remains committed to minority and women business development.

The City of Omaha's approach to minority/women business development is embedded in its policy of non-discrimination in the conduct of City business including the procurement of goods, materials and services, construction and community and economic development projects. The City recognizes its obligations to each segment of the various communities it serves. It is in recognition of these responsibilities that the City established the City's Contract Compliance Ordinance.

The Ordinance commits the City to:

1. Require contractors and/or vendors to provide employment opportunities without regard to race, color, sex, religion, or national origin;
2. Monitor contractor and vendor equal opportunity performance; and
3. Increase the total number and total dollar volume of City contracts awarded to minority-owned and women-owned firms.

## GOALS AND OBJECTIVES

The following represents a summary of the goals and objectives of the Planning Department as they relate to minority and women-owned businesses:

1. Encourage, increase and promote business and procurement opportunities for women-owned businesses;
2. Increase and expand the awareness and understanding regarding the concerns, obstacles, and hindrances preventing increased MBE/WBE participation in Planning Department activities;
3. Assist MBE's/WBE's through the revitalization of business districts;
4. Assist minority and female entrepreneurs in the formation and growth of new small businesses; and
5. Provide technical assistance to neighborhood organizations, MBE's and WBE's to increase their participation in the Planning Department programs and activities at all levels.

## SCOPE OF WORK

In order to accomplish these objectives, the Planning Department will:

1. Require that recipients of grant awards, consulting contracts, or loans to adopt the City's MBE/WBE Enterprise Plan.
2. Ensure that Requests for Proposals have the MBE/WBE Enterprise Plan.
3. Ensure that the programs of the Planning Department are advertised in the appropriate new media whose markets are targeted toward MBE/WBE.

4. Implement an outreach effort informing MBE and WBE firms and capture information on these firms doing business with the Planning Department.
5. Implement a system to identify MBE and WBE firms and capture information on these firms doing business with the Planning Department.
6. Require developers, corporations, partnerships and/or sole proprietors to register with the Human Relations Department and the Purchasing Department. In addition, require these entities to complete CC-1 (Human Relations Department)

The following information has been developed to assist you in complying with the MBE/WBE requirements in the agreement with the City of Omaha. If you have any questions or require further assistance in completing the application package, please contact Mr. Edward Dantzler, at 444-5530.

**MBE/WBE FOR GOODS AND SERVICES**

Your company must make vendors aware of equal opportunity utilization of minority, disabled and women-owned businesses. To accomplish this goal, you must provide a copy of the approved MBE/WBE Participation Plan to all businesses providing goods and/or services to the project.

Your company must provide the opportunity for Minority Business Enterprises and Women Business Enterprises to provide goods and services through all phases of the project. A concerted effort must be made to allow these businesses to actively compete for project contracts. This effort will include utilization of the following resources and documentation of your actions to achieve these objectives.

Douglas County Purchasing Department  
1819 Farnam Street, Room 903  
Omaha, NE 68183  
Eric Carlson, Purchasing Agent  
402-444-7155 Fax: 402-444-4992

Housing and Community Development Division  
City Planning  
1819 Farnam Street, Room 1111  
Omaha, NE 68183  
Edward Dantzler, Development Section Manager  
402-444-5530 Fax: 402-444-5201

Human Rights and Relations Department  
Contract Compliance  
1819 Farnam Street, Room 502  
Omaha, NE 68183  
Richard O’Gara, Director  
402-444-5050 Fax: 402-444-5058

Minority Economic Development  
Greater Omaha Chamber of Commerce  
1301 Harney Street  
Omaha, NE 68102  
Winsley Duran, Director  
402-345-5000 Fax: 402-346-7050

Nebraska Department of Economic Development  
Small Business (MBE/WBE/DBE) Assistance  
301 Centennial Mall South  
Lincoln, NE 68509-4666  
Steve Williams, Business Assistance Manager  
402-471-3111 Fax 402-471-3778

## MBE/WBE FOR GOODS AND SERVICES

North Omaha Contractor Alliance  
2505 North 24<sup>th</sup> Street  
Omaha, NE 68110  
Houston McKell, III, Executive Director  
402-714-1205

Omaha Small Business Network, Inc.  
2505 North 24<sup>th</sup> Street  
Omaha, NE 68110  
Vicki Wilson Tederman, Executive Director  
402-453-5336 Fax: 402-451-2876

Small Business Administration  
10675 Bedford Avenue, Suite 100  
Omaha, NE 68134  
Kathleen Piper, ADD/MED  
402-221-7205 Fax: 402-221-3680

Urban League of Nebraska, Inc.  
3040 Lake Street  
Omaha, NE 68110  
Thomas H. Warren, President/CEO  
402-451-1066

**CITY OF OMAHA  
CONTRACTOR INFORMATION FORM**

Date: \_\_\_\_\_  
Project Address: \_\_\_\_\_

**Owner Information**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, St., Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_

**General Contractor Information**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, St., Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_

Federal Tax ID or SSN \_\_\_\_\_

Contract Amount \$ \_\_\_\_\_

Woman Owned Business  Yes  No

BRE (Business Owned Race/Ethnic) Code: \_\_\_\_\_

(BRE Code: 1 White American; 2 Black American; 3 Native American; 4 Hispanic American 5 Asian/Pacific American; 6 Hasidic Jews)

**Subcontractor Information (Complete for each subcontractor for the project)**

Name/Address	Fed ID/SSN	Tax	Contract Amt.	Woman Own	BRE Code
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-

Date: \_\_\_\_\_  
 Project Address: \_\_\_\_\_

Owner Information  
 Name: \_\_\_\_\_

General Contractor Information  
 Name: \_\_\_\_\_

(BRE Code: 1 White American; 2 Black American; 3 Native American; 4 Hispanic American 5 Asian/Pacific American; 6 Hasidic Jews)

Name/Address	Fed ID/SSN	Tax	Contract Amt.	Woman Own	BRE
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-
Name: _____ Address: _____ City, St., Zip: _____ Phone: _____	_____	_____	\$ _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	-

#### DEFINITIONS:

1. **American Indian or Alaska Native.** A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.
2. **Asian.** A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand and Vietnam.
3. **Black or African American.** A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black" or "African American".
4. **Native Hawaiian or Other Pacific Islander.** A person having origins in any of the original peoples of Hawaii, Guam, Samoa or other Pacific Islands.
5. **White.** A person having origins in any of the original peoples of Europe, the Middle East or North Africa.



### SECTION 3 CLAUSE

All Section 3 covered contracts shall include the following clause (referred to as the Section 3 clause):

- A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3 shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- D. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD-assisted contracts.

- G. With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 8 and Section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 87 (b).

Providing Other Economic Opportunities.

- (a) General. In accordance with the findings of the Congress, as stated in Section 3, that other economic opportunities offer an effective means of empowering low-income persons, a recipient is encouraged to undertake efforts to provide to low-income persons economic opportunities other than training, employment and contract awards, in connection with Section 3 covered assistance.
- (b) Other training and employment-related opportunities. Other economic opportunities to train and employ Section 3 residents include, but need not be limited to, use of "upward mobility", "bridge" and trainee positions to fill vacancies; and hiring Section 3 residents in part-time positions.
- (c) Other business-related economic opportunities: (1) A recipient or contractor may provide economic opportunities to establish, stabilize or expand Section 3 business concerns, including micro-enterprises. Such opportunities include, but are not limited to formation of Section 3 joint ventures, financial support for affiliating with franchise development, use of labor only contracts for building trades, purchase of supplies and materials from housing authority resident-owned businesses, purchase of materials and supplies from PHA resident-owned businesses and use of procedures under 24 CFR part 963 regarding HA contracts to HA resident-owned businesses. A recipient or contractor may employ these methods directly or may provide incentives to non-Section 3 businesses to utilize such methods to provide other economic opportunities to low-income persons. (2) A Section 3 joint venture means an association of business concerns, one of which qualifies as a Section 3 business concern, formed by written joint venture agreement to engage in and carry out a specific business venture for which purpose the business concerns combine their efforts, resources and skills for joint profit, but not necessarily on a continuing or permanent basis for conducting business generally, and for which the Section 3 business concern:
- (i) Is responsible for a clearly defined portion of the work to be performed and holds management responsibilities in the joint venture; and
- (ii) Performs at least 25 percent of the work and is contractually entitled to compensation proportionate to its work.



## EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

During the performance of this Contract, the Contractor agrees as follows:

- (1) The Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, sexual orientation, gender identity, national origin, disability or familial status. As used herein, the work "treated" shall mean and include, without limitation, the following: Recruited, whether by advertising or by other means; compensated; selected for training, including apprenticeship; promoted; upgraded; demoted; downgraded; transferred; laid off; and terminated. The Contractor agrees to and shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officers setting forth the provisions of this nondiscrimination clause.
- (2) The Contractor and its subcontractors shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sexual orientation, gender identity, sex, national origin, age, disability or familial status.
- (3) The Contractor and its subcontractors shall send to each representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice advising the labor union or worker's representative of the Contractor's commitments under the equal employment opportunity clause of the City and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The Contractor and its subcontractors shall furnish to the City's Human Rights and Relations Contract Compliance Officer all federal forms containing the information and reports required by the federal government for federal contracts under federal rules and regulations, including the information required by Omaha Municipal Code Sections 10-192 to 10-194, inclusive, and shall permit reasonable access to his records. Records accessible to the Human Rights and Relations Contract Compliance Officer shall be those which are related to Paragraphs (1) through (7) of this Exhibit and only after reasonable notice is given to the Contractor. The purpose for this provision is to provide for investigation to ascertain compliance with the program provided for herein.
- (5) The Contractor and its subcontractors shall take such actions with respect to any subcontractor as the City may direct as a means of enforcing the provisions of Paragraphs (1) through (7) herein, including penalties and sanctions for noncompliance; however, in the event the Contractor becomes involved in or is threatened with litigation as the result of such directions by the City, the City will enter into such litigation as is necessary to protect the interests of the City and to

effectuate the provisions of this division; and in the case of contracts receiving federal assistance, the Contractor or the City may request the United States to enter into such litigation to protect the interests of the United States.

- (6) The Contractor shall file and shall cause his subcontractors, if any, to file compliance reports with the Contractor in the same form and to the same extent as required by the federal government for federal contracts under federal rules and regulations. Such compliance reports shall be filed with the Human Rights and Relations Contract Compliance Officer. Compliance reports filed at such times as directed shall contain information as to the employment practices, policies, programs and statistics of the Contractor and his subcontractors.
- (7) The Contractor shall include the provisions of Paragraphs (1) through (7) of this Section, "Equal Employment Opportunity Clause", and Omaha Municipal Code Section 10-193 in every contract, subcontract or purchase order so that such provisions will be binding upon each subcontractor or vendor. (Code 1980, Section 10-192; Ordinance No. 35344, Sections 1, 9-26-00)

## SECTION 01800 GEOTECHNICAL DATA

### 1.1 INVESTIGATION

A. Geotechnical investigations were conducted at the site, the results of which can be found in the report issued by Thiele Geotech Inc. TG Project No. 16141.00, dated April 11, 2016.

B. A copy of the report is bound into the Project Manual following this Section.

### 1.2 INTERPRETATION

A. The report is provided only for bidder's information and convenience and is not part of the Contract Documents. Owner and Architect do not warrant the accuracy or extent of the report or locations of the test borings.

B. Opinions expressed in the report are those of the Geotechnical Engineer and represent the Geotechnical Engineer's interpretation of subsoil conditions, tests, and results of analyses that the Geotechnical Engineer has conducted.

C. The report is based upon the assumption that uniform variation exists in soil properties between borings. Interpretation of the report is bidder's responsibility. Owner and Architect will not be responsible for interpretation of report by bidders.

D. Bidders are urged to examine the report and the site.

E. Additional soil borings or other exploratory operations may be made by bidders at no additional cost to Owner, provided such operations are approved by Owner in advance.

F. Refer to Conditions of the Contract for additional information.

END OF DOCUMENT



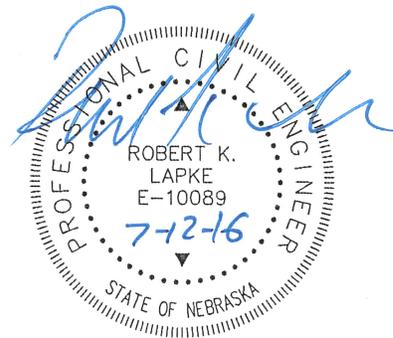
*Geotechnical Exploration Report*

**North 92nd Street Duplex Buildings**

**North 92<sup>nd</sup> Street & Military Road  
Omaha, Nebraska**

**Prepared for:**  
Northwest Senior, LLC  
1886 South 126<sup>th</sup> Street  
Omaha, NE 68144

July 12, 2016  
TG Project No. 16141.00



**THIELE GEOTECH, INC.**  
13478 Chandler Road  
Omaha, Nebraska 68138-3716  
402.556.2171 Fax 402.556.7831  
[www.thielegeotech.com](http://www.thielegeotech.com)



*Geotechnical Exploration Report*  
**North 92nd Street Duplex Buildings**

Table of Contents

**INTRODUCTION ..... 1**

**PROJECT DESCRIPTION ..... 2**

**SURFACE AND SUBSURFACE CONDITIONS ..... 3**

    SITE CONDITIONS ..... 3

    LOCAL GEOLOGY ..... 3

    SOIL CONDITIONS ..... 3

    GROUND WATER OBSERVATIONS ..... 4

**ANALYSIS AND RECOMMENDATIONS ..... 5**

    GENERAL ..... 5

    EARTHWORK AND EXCAVATIONS ..... 5

    SHALLOW FOUNDATIONS ..... 6

    SEISMIC SITE CLASS ..... 7

    FLOOR SLABS ..... 7

    DRIVEWAY PAVEMENTS AND SIDEWALKS ..... 8

    SURFACE DRAINAGE AND LANDSCAPING ..... 9

    OTHER RECOMMENDATIONS ..... 10

**APPENDIX**

## **INTRODUCTION**

---

Thiele Geotech, Inc. has completed a geotechnical exploration study for the proposed duplex buildings to be located near North 92<sup>nd</sup> Street and Military Road in Omaha, Nebraska. The purpose of this study was to identify the general soil and ground water conditions underlying the site; to evaluate engineering properties of the existing soils; to provide earthwork and site preparation recommendations; and to recommend design criteria and parameters for foundations, pavements, and other earth supported improvements.

This study included soil borings, laboratory testing, and engineering analysis. A series of seven test borings was spaced across the project site at strategic locations. The field and laboratory data are presented in the Appendix, along with a description of investigative methods.

The drilling and testing performed for this study were conducted solely for geotechnical analysis. No analytical testing or environmental assessment has been conducted. Any statements or observations in this report regarding odors, discoloration, or suspicious conditions are strictly for the information of our client. If an evaluation of environmental conditions is desired, a separate environmental assessment should be conducted. This study did not include biological assessment (e.g. mold, fungi, bacteria) or evaluation of measures for their control.

It should also be noted that this report was prepared for design purposes only, and may not be sufficient for a contractor in bid preparation. Prospective contractors should evaluate potential construction problems on the basis of their own knowledge and experience in the local area and on similar projects, taking into account their own intended construction methods and procedures.

This report is an instrument of service prepared for use by our client on this specific project. The report may be duplicated as necessary and distributed to those directly associated with this project, including members of the design team and prospective contractors. However, the technical approach and report format shall be considered proprietary and confidential, and this report may not be distributed in whole or in part to any third party not directly associated with this project. By using and relying on this report, all other parties agree to the same terms, conditions, and limitations to which the client has agreed.

## **PROJECT DESCRIPTION**

---

Our understanding of the project is based upon information provided by Foundations Development, LLC.

The project consists of constructing duplex buildings north of the intersection of North 92<sup>nd</sup> Avenue and Military Road in Omaha, Nebraska. Eighteen new duplex buildings, consisting of 36 units, will be built. The structures will be slab-on-grade and will not have basements. There are two different plans for the duplex structures. One type of structure will have the two units on the same level and the other will have a 2-foot, 8-inch step between the units. Structural loads of less than 3 kips per lineal foot for continuous walls are anticipated. Grade changes are assumed to be minor.

## **SURFACE AND SUBSURFACE CONDITIONS**

---

### **SITE CONDITIONS**

The project site is located north of the intersection of North 92<sup>nd</sup> Avenue and Military Road in Omaha, Nebraska. The duplex buildings will be built on 18 vacant lots in this residential area. The lots are located on North 92<sup>nd</sup> Avenue, Arcadia Avenue, North 92<sup>nd</sup> Street, and Crown Point Avenue. The lots are currently grass-covered and are within an area already developed for residential use. The topography of the lots is generally sloping gently to the north.

### **LOCAL GEOLOGY**

The surface geology of eastern Nebraska is Pleistocene in age and consists of eolian (wind-blown) deposits of Peoria and Loveland loess. The loess formed in dune-shaped hills along the Missouri River and various tributaries. The Peoria loess typically consists of silty lean clays that are stiff when dry but become softer with increasing moisture content. The Peoria sometimes exhibits low unit weight and is collapse susceptible. The Loveland loess is an older deposit, and typically consists of lean clays. The Loveland generally exhibits higher unit weights and shear strengths than the Peoria. Perched moisture conditions sometimes occur above the Peoria/Loveland interface.

The loess overlies Pleistocene glacial deposits of Kansan and Nebraskan till. The till consists of lean to fat clays mixed with sand, gravel, and occasional cobbles. The glacial deposits are generally fairly deep, but are sometimes near the surface at lower elevations on steep slopes. Cretaceous sandstone or Pennsylvanian limestone and shale form the bedrock unit below the glacial deposits. The depth to bedrock is normally great, and rock is rarely encountered in construction.

Along drainageways, alluvial and colluvial deposits are typically present. These soils were formed by erosion of the adjoining loess-mantled hills. Alluvial deposits are generally present along creeks and in major drainageways. The upper several feet of alluvium are usually stiffer due to the effects of desiccation. Colluvial soils are usually located at the base of steep slopes and in upland draws, and are formed by local creep and sloughing.

### **SOIL CONDITIONS**

The soils encountered in the test borings generally consisted of man-placed fill, colluvium, Peoria loess, and Loveland loess.

Man-placed fill was encountered at the surface of borings B-1, B-2, B-6, and B-7 with thicknesses of 1 to 12.5 feet. The fill was generally described as brownish gray, light grayish brown, dark grayish brown, dark brown, or brown, moist, firm to hard, lean clay.

Colluvium was encountered beneath the fill in boring B-1 with a thickness of 4.5 feet. The colluvium was generally described as dark gray, very moist, firm, lean clay.

Peoria loess was encountered beneath the colluvium in boring B-1, beneath the fill in borings B-2, B-6, and B-7, and at the surface of borings B-3, B-4, and B-5 with thicknesses of 3 to 20 feet. The Peoria loess was generally described as light brown, grayish brown, light grayish brown, brown, or light gray, slightly moist to very moist, soft to firm, lean clay.

Loveland loess was encountered beneath the Peoria loess in borings B-2, B-3, and B-4 and extended to termination depth of each boring. The Loveland loess was generally described as reddish brown, moist, firm to very hard, lean clay or fat clay.

Ranges of engineering properties from laboratory tests on selected samples are presented in Table 1.

**Table 1 - Laboratory Results**

<b>Soil Layer</b>	<b>Moisture Content (%)</b>	<b>Dry Unit Weight (pcf)</b>	<b>Unconfined Compressive Strength (tsf)</b>	<b>Classification (LL/PI)</b>
Man-placed fill	18 to 22	97 to 109	1.2 to 1.3	CL (43/21)
Colluvium	25	86	1.1	CL (visual)
Peoria loess	12 to 27	84 to 99	0.7 to 1.5	CL (visual)
Loveland loess	16 to 20	93 to 105	1.4 to 3.4	CL (43/24) CH (visual)

**GROUND WATER OBSERVATIONS**

Ground water was not encountered in any of the test borings during or at the end of the drilling operation. However, it must be noted that ground water levels may fluctuate due to seasonal variations and other factors.

## **ANALYSIS AND RECOMMENDATIONS**

---

### **GENERAL**

The primary geotechnical engineering concern associated with this project is the presence of moderate strength soils at assumed bottom of footing elevations for the duplex buildings. The shear strength and density of the soils encountered on site near assumed bottom of footing elevations for the structures are modest and control the allowable bearing pressure that can be used to design footings that bear on the existing, unimproved soils. Footings can bear on the existing site soils provided that a reduced bearing pressure is used for footing design, as specified in the Shallow Foundations section of this report.

### **EARTHWORK AND EXCAVATIONS**

Rubble and waste materials from site clearing and demolition should be removed from the site and lawfully disposed or recycled. Waste materials should not be buried on-site. Where trees are cleared, the stumps should be excavated and removed.

Relocation of any existing utility lines within the zone of influence of proposed construction areas should also be completed as part of the site preparation. The lines should be relocated to areas outside of the proposed construction. Excavations created by removal of the existing lines should be cut wide enough to allow for use of heavy construction equipment to recompact the fill. In addition, the base of the excavations should be thoroughly evaluated by a geotechnical engineering representative prior to placement of fill.

Topsoil and vegetation should be stripped to a depth of 4 to 6 inches in areas to be disturbed during grading, including borrow and fill areas. Stripping depths will likely vary and should be adjusted to remove all vegetation and root systems. A representative of the geotechnical engineer should monitor the stripping operations to observe that all unsuitable materials have been removed. Care should be exercised to separate these materials to avoid incorporation of the organic matter in structural fill sections.

Surfaces to receive fill should be broken up and recompact to allow new fill to bond to the existing soil. Slopes steeper than 5H:1V should be benched before placing fill.

The excavated site soils will generally be suitable for reuse as structural fill, although some moisture conditioning may be required. Any off-site borrow should be a clean, inorganic silt or lean clay with a liquid limit less than 45 and a plasticity index less than 20. Borrow material should not contain an appreciable amount of roots, rock, or debris, and should not contain any foreign material with a dimension greater than 3 inches.

All fills should be placed and compacted as structural fill. Fill should be placed in thin lifts not to exceed 8 inches loose thickness. Structural fill should be compacted with a sheepsfoot type roller to a minimum of 95 percent of the maximum dry density (ASTM D698, Standard Proctor). Moisture content should be controlled to between -3 and +4 percent of optimum.

Backfill soils in utility trenches should be compacted to a minimum of 95 percent of the maximum dry density at a moisture content between -3 and +4 percent of optimum. Lift thicknesses should be appropriately matched to the type of compaction equipment used. Backfill soils around foundations, basement walls, and retaining walls should be compacted to a minimum of 95 percent of the maximum dry density at a moisture content between -3 and +4 percent of optimum. Granular backfill should not be used in exterior trenches or around foundation elements.

Quality control testing is an important part of any earthwork operation. It is recommended that a representative of the geotechnical engineer periodically monitor earthwork operations to verify proper compliance with these recommendations, including compaction levels.

OSHA's Construction Standards for Excavations require that the contractor's excavation activities follow certain worker safety procedures. These include a requirement that excavations over 4 feet deep be sloped back, shored, or shielded. The soils encountered in the test borings generally classify as type B and C soils according to the OSHA standard. The maximum allowable slope for an unbraced excavation in these soils is 1H:1V and 1.5H:1V, respectively, although other provisions and restrictions apply. Excavations over 20 feet deep require specific design by a licensed Professional Engineer. The contractor is solely responsible for site/excavation safety and compliance with OSHA regulations. The geotechnical engineer assumes no responsibility for site safety, and the above information is provided only for consideration by the designers.

## **SHALLOW FOUNDATIONS**

The site conditions identified are favorable for the use of conventional spread foundations to support structural loads. Based on our bearing capacity and settlement analysis, a net allowable bearing pressure of 1,500 psf was determined. This bearing pressure was calculated based on a safety factor of 3 against bearing failure. Foundation settlements are estimated at less than 1 inch total and ½ inch differential over a span of 20 feet. If maximum design loads significantly exceed 50 kips for columns or 3 kips per foot for walls, these bearing pressures may not be applicable and should be reevaluated.

If soft or unstable conditions are encountered during excavation, footing sizes should be increased appropriately. It is recommended that column footings be at least 3 feet square and that load bearing wall footings be at least 16 inches wide. Exterior footings and footings in unheated areas should be founded a minimum of 3.5 feet below adjacent grade to provide reasonable frost protection. It is recommended that all footings be steel reinforced.

The condition of the bearing soils can vary and should be observed by the geotechnical engineer at the time of excavation. If unsuitable bearing soils are identified, they should be improved by compaction or replaced by structural fill. As an alternative, the footing bottom could be extended through unsuitable materials if suitable material is present below.

### **SEISMIC SITE CLASS**

Seismic structural design requirements are dictated by a site classification based on average soil properties within the top 100 feet. Based on our local experience, the soil profile was estimated below the maximum boring depth. The average undrained shear strength was then estimated based on the actual laboratory testing and on assumed soil properties for the deeper soil profile.

The site classifies as Site Class D (stiff soil profile) according to Table 1613.5.2 of the 2006 International Building Code.

### **FLOOR SLABS**

To avoid localized slab failures, it is important that interior backfill around foundation elements and in plumbing trenches be properly compacted. Interior backfill should be compacted to a minimum of 95 percent of the maximum dry density at a moisture content between -3 and +4 percent of optimum (ASTM D698, Standard Proctor).

To provide uniform support for floor slabs, the upper 6 inches of the subgrade should be compacted to a minimum of 95 percent of the maximum dry density at a moisture content between -3 and +4 percent of optimum (ASTM D698, Standard Proctor). Care should be taken to maintain the condition of the subgrade. Areas that become saturated, frozen, or disturbed should be reworked prior to slab placement. Any unstable areas should be excavated and replaced with structural fill. A granular cushion beneath the floor slab is considered a construction convenience and may be used, but is not considered critical to proper slab performance.

A 10 mil thick vapor retarder is recommended beneath the concrete to inhibit upward migration of moisture through the slab. Care should be taken when finishing concrete placed directly on a vapor retarder to minimize potential problems with curling and blistering.

Interior partition walls weighing up to 1,000 pounds per lineal foot may be supported directly on the floor slab. It is recommended that control joints be provided between partition walls that bear on the floor slab and walls supported on footings. Entrance slabs should be designed as structural stoops with a cavity beneath the slab to accommodate frost heave.

Contraction joints are important to control the location of cracks in the floor slab that result from stresses caused by normal drying shrinkage. Joints should be cut as soon as practical after the concrete has set sufficiently to support foot traffic, and must be cut before any shrinkage cracks form. Contraction joints should be cut to a minimum of  $\frac{1}{4}$  of the slab thickness ( $\frac{1}{5}$  of the thickness for early entry saw method). Joints should be spaced no more than 30 times the thickness of the slab or 15 feet maximum. Panels should be kept as square as possible, with the length to width ratio limited to 125 percent. Dowel bars should be used for load transfer across construction joints where slabs are subjected to heavy loads. Joints should be carefully planned and laid out to match column lines and to meet reentrant corners. Joints should be perpendicular to edges and should not form angles less than 45 degrees or over 225 degrees. To accommodate the relative movement that commonly occurs between floors and foundations, isolation joints should be provided against walls, and diamond or circular isolation joints should be constructed around columns.

### **DRIVEWAY PAVEMENTS AND SIDEWALKS**

Pavement and sidewalk performance is directly affected by the degree of compaction, uniformity, and stability of the subgrade. The final subgrade should be reworked and compacted immediately prior to pavement construction. The subgrade should then be proof rolled, and any unstable areas should be excavated and replaced to create a uniform and stable subgrade.

For concrete pavements, it is recommended that the upper 12 inches of the subgrade be compacted to a minimum of 90 percent of the maximum dry density at a moisture content between -3 and +4 percent of optimum (ASTM D1557, Modified Proctor). Subgrade preparation should extend a minimum of 2 feet laterally beyond the edge of the pavement.

Under sidewalks, the upper 6 inches of the subgrade should be compacted to a minimum of 95 percent of the maximum dry density at a moisture content between -3 and +4 percent of optimum (ASTM D698, Standard Proctor). Subgrade preparation should extend laterally 6 inches beyond the edge of the sidewalk

Based on the forgoing subgrade preparation procedures, recommended minimum pavement thicknesses are provided in Table 2. These minimum thicknesses are prescriptive values based on traffic classification, and not on a detailed analysis using traffic counts.

**Table 2 - Minimum Pavement Thicknesses**

Pavement Category	Concrete Pavement Thickness (inches)
Sidewalks	4
Driveways	5
<i>Subgrade Support Values: CBR = 3, k=120 pci            Materials: (reference City of Omaha Standard Specifications for Public Works Construction, 2014 Edition)            concrete - mix type L6S (<math>f'_c = 4,000</math> psi) (Section 500)</i>	

Contraction joints are important to control the location of cracks in concrete pavement that result from stresses caused by normal drying shrinkage and thermal effects. A proper jointing system will enhance structural capacity and prolong the life span of a concrete pavement as well as improve ride quality. Contraction joints should be cut to a minimum of 1/4 of the slab thickness (1/5 of the thickness for early entry saw method). Joints should be cut as soon as practical after the concrete has set sufficiently to support foot traffic, and must be cut before any shrinkage cracks form. Joints should be spaced no more than 24 times the thickness of the slab or 12½ feet maximum. Panels should be kept as square as possible, with the length to width ratio limited to 125 percent. Dowel bars should be used for load transfer across construction joints, and should be considered for contraction joints subjected to heavy truck traffic. Joints should be carefully planned and laid out to meet inlets, drainage structures, reentrant corners, and radiuses. Joints should be perpendicular to edges and radiuses, and should not form angles less than 45 degrees or over 225 degrees. Isolation joints should be provided around any structures.

**SURFACE DRAINAGE AND LANDSCAPING**

The long-term performance of any project is contingent upon keeping the subgrade soils at more or less constant moisture content, and by not allowing surface drainage a path to the subsurface. Positive surface drainage away from structures must be maintained at all times. Landscaped areas should be designed and built such that irrigation and other surface water will be collected and carried away from the structure.

Construction staging and grading should provide for removal of surface water from the site. If prolonged ponding of surface water occurs, removal and replacement of wet or disturbed soils may be necessary. Temporary grades should be established to prevent runoff from entering excavations or footing trenches. Backfill should be placed as soon as structural strength requirements are met, and should be graded to drain away from the building.

The final grade of the foundation backfill and any overlying pavements should have a positive slope away from foundation walls on all sides. For grass or landscape covered areas, a minimum slope of 2

inch per foot for 5 to 10 feet away from the building is recommended. A minimum slope of 3 percent is recommended for grassed or landscaped areas of the site away from the building. For paved areas, minimum slopes of 1 percent for concrete pavements and 1½ percent for asphalt pavements are recommended. Pavements and exterior slabs that abut the structure should be carefully sealed against moisture intrusion at the joint.

## **OTHER RECOMMENDATIONS**

During detailed design, additional issues may arise and possible conflicts may occur with our recommendations. Such issues and conflicts should be resolved through dialogue between the geotechnical engineer and designers. It is recommended that the geotechnical engineer review the final design, including the plans and specifications, to verify that our recommendations are properly interpreted and incorporated into the design.

If any changes are made in the design of the project, including the nature or location of proposed facilities on the site or significant elevation changes, the analysis and recommendations of this report shall not be considered valid unless the changes are reviewed. The analysis and recommendations of this report should not be applied to different projects on the same site or to similar projects on different sites.

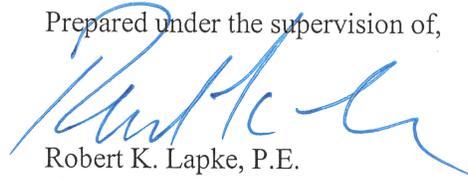
The analysis and recommendations in this report are based upon borings at specific locations. The nature and extent of variation between boring locations is impossible to predict. Because of this, geotechnical recommendations are preliminary until they have been confirmed through observation of site excavation and earthwork preparation. If variations appear during subsequent exploration or during construction, we may reevaluate our recommendations and modify them, if appropriate. The geotechnical engineer should be retained during construction to observe compliance with the recommendations of this report and to provide quality control testing of earthwork construction. If these services are provided by others, including the contractor, the entity that provides construction phase observation and testing shares responsibility as the geotechnical engineer of record for implementing or modifying these recommendations.

Respectfully submitted,  
**Thiele Geotech, Inc.**

Prepared by,

Raeanna C. Doyle, E.I.

Prepared under the supervision of,



Robert K. Lapke, P.E.  
Nebraska License E-10089

P:\16141.00\REVISED GEOTECHNICAL EXPLORATION REPORT - N 92ND ST DUPLEX BLDGS.DOCX

## **APPENDIX**

---

**Subsurface Exploration Methods**

**Legend of Terms**

**Boring Location Plan**

**Boring Logs**

**Soil Test Summary**

## **SUBSURFACE EXPLORATION METHODS**

The fieldwork for this study was conducted on March 29, 2016. The exploratory program consisted of 7 test borings drilled at the approximate locations shown on the Boring Location Plan. Boring locations were selected to provide the desired site coverage and were adjusted to accommodate access conditions. The boring locations were laid out using a handheld GPS. The boring locations should only be considered accurate to the degree implied by the methods used to define them.

Test borings were advanced using flight augers powered by a truck-mounted drill rig. Soil samples were obtained at selected depths as indicated on the boring logs. A 3-inch nominal diameter thin-walled sampler was hydraulically pushed to obtain undisturbed samples.

The boring logs were prepared based on visual classification of the samples and drill cuttings, and by observation of the drilling characteristics of the subsurface formations. The logs have been supplemented and modified based on the laboratory test results and further examination of the recovered samples. The stratification lines on the boring logs represent the approximate boundary between soil types, but the insitu transition may be gradual.

Water level observations were made at the times stated on the boring logs. The borings were backfilled with drill cuttings at the completion of the fieldwork.

The field boring logs were reviewed to outline the depths, thicknesses, and extent of the soil strata. A laboratory testing program was then developed to further classify the basic soils and to evaluate the engineering properties for use in our analysis.

Laboratory tests to further classify the soils included visual classification, moisture content, dry unit weight, and Atterberg limits. The shear strengths of cohesive samples were evaluated using the unconfined compression test.

The boring logs and related information in this report are indicators of subsurface conditions only at the specific locations and times noted. Subsurface conditions, including ground water levels, at other locations of the site may differ significantly from conditions that exist at the sampling locations. Also note that the passage of time may affect conditions at the sampling locations.

# LEGEND OF TERMS

## Soil Description Terms

<b>Consistency - Fine Grained</b> Very Soft, Soft, Firm, Hard, Very Hard	<b>Consistency - Coarse Grained</b> Very Loose, Loose, Medium Dense, Dense, Very Dense	<b>Moisture Conditions</b> Dry, Slightly Moist, Moist Very Moist, Wet (Saturated)
--	--	---

## Sample Identification

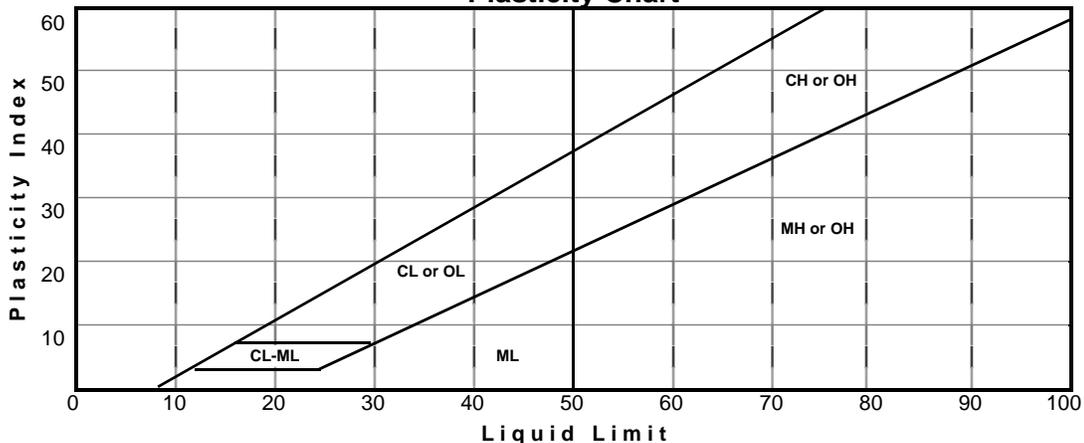
<b>Sample Type</b> U -- Undisturbed (Shelby Tube) S -- Split barrel (disturbed) C -- Continuous sample A -- Auger cuttings (disturbed)	<b>Sample Data</b> No. -- Number SPT -- Standard penetration test bpf -- blows per foot Rec -- Recovery	<b>Laboratory Data</b> MC -- Moisture content $\gamma_d$ -- Dry unit weight $q_u$ -- Unconfined compression LL/PI -- Liquid limit & plasticity index
--	---	--

## Unified Soil Classification System

Peat	Pt	Highly organic soils	
Fat Clay	CH	Clay - Liquid Limit > 50 *	50% or more smaller than No. 200 sieve
Elastic Silt	MH	Silt - Liquid Limit > 50 *	
Lean Clay	CL	Clay - Liquid Limit < 50 *	
Silt	ML	Silt - Liquid Limit < 50 *	More than 50% larger than No. 200 sieve and % sand > % Gravel
Silty Clay	CL-ML	Silty Clay *	
Clayey Sand	SC	Sands with 12 to 50 percent smaller than No. 200 sieve *	
Silty Sand	SM		More than 50% larger than No. 200 sieve and % sand > % Gravel
Poorly-Graded Sand with Clay	SP-SC	Sands with 5 to 12 percent smaller than No. 200 Sieve *	
Poorly-Graded Sand with Silt	SP-SM		
Well-Graded Sand with Clay **	SW-SC	Sands with less than 5 percent smaller than No. 200 sieve *	
Well-Graded Sand with Silt **	SW-SM		
Poorly-Graded Sand	SP		More than 50% larger than No. 200 sieve and % gravel > % sand
Well-Graded Sand **	SW	Gravels with 12 to 50 percent smaller than No. 200 Sieve *	
Clayey Gravel	GC	Gravels with 5 to 12 percent smaller than No. 200 sieve *	
Silty Gravel	GM		
Poorly-Graded Gravel with Clay	GP-GC	Gravels with less than 5 percent smaller than No. 200 sieve *	
Poorly-Graded Gravel with Silt	GP-GM		
Well-Graded Gravel with Clay **	GW-GC		
Well-Graded Gravel with Silt **	GW-GM		
Poorly-Graded Gravel	GP		
Well-Graded Gravel **	GW		

\* See Plasticity Chart for definition of silts and clays  
\*\* See Criteria for Sands and Gravels for definition of well-graded

## Plasticity Chart



## Criteria for Sands and Gravels

Boulders	Cobbles	Coarse Gravel	Fine Gravel	Coarse Sand	Medium Sand	Fine Sand	FINES (silt or clay)
Sieve size 10"	3"	3/4"	#4	#10	#40	#200	
Well-graded sands (SW) $C_u = D_{60}/D_{10} \geq 6$ and $C_c = (D_{30})^2 / (D_{10} \times D_{60}) \leq 3$ and $\geq 1$							
Well-graded gravels (GW) $C_u = D_{60}/D_{10} \geq 4$ and $C_c = (D_{30})^2 / (D_{10} \times D_{60}) \leq 3$ and $\geq 1$							



0 50 100  
SCALE: 1"=100'



**LEGEND:**

 BORING LOCATION



Thiele Geotech Inc

PROJECT

N 92nd STREET DUPLEXES  
N 92nd ST. & MILITARY RD.  
OMAHA, NEBRASKA

JOB # 16141.00 | DATE: 3/30/16















Project	Job No.
N 92nd St. Duplex Buildings	16141.00
Location	Date
N 92nd St. & Military Rd., Omaha, NE	4/4/2016

BORING NO.	SAMPLE NO.	SAMPLE DEPTH (ft.)	SAMPLE DIA. (in.)	MOISTURE CONTENT (%)	UNIT WEIGHT		VOID RATIO (e)	SAT. (%)	UNCONFINED COMPRESSION		SOIL CLASSIFICATION			REMARKS	
					WET (pcf)	DRY (pcf)			q <sub>u</sub> (tsf)	STRAIN (%)	ATTERBERG LIMITS				PASS #200 (%)
											LL	PL	PI		
B-1	U-1	0.5-2		18.3	128.2	108.4	0.555	89							
	U-2	3.5-5		21.7	123.6	101.6	0.658	89							
	U-3	8.5-10	2.85	22.2	118.5	97.0	0.738	81	1.23	3.5					
	U-4	13.5-15	2.85	25.1	107.5	85.9	0.961	70	1.06	2.3					
	U-5	18.5-20		26.3	121.8	96.5	0.746	95							
B-2	U-1	0.5-2		18.5	128.7	108.6	0.552	90			43	22	21		CL
	U-2	3.5-5		20.8	117.8	97.5	0.729	77							
	U-3	8.5-10	2.85	22.5	108.1	88.2	0.910	67	0.88	2.4					
	U-4	13.5-15		18.6	113.8	96.0	0.756	67							
B-3	U-1	0.5-2	2.85	26.3	115.6	91.6	0.840	84	1.15	3.4					
	U-2	3.5-5		26.6	105.8	83.6	1.015	71							
	U-3	8.5-10		24.4	113.7	91.4	0.843	78							
	U-4	13.5-15	2.85	22.5	114.7	93.7	0.799	76	1.27	2.6					
	U-5	18.5-20		19.6	118.9	99.4	0.695	76							
B-4	U-1	0.5-2		24.6	108.5	87.1	0.935	71							
	U-2	3.5-5		21.7	107.1	88.0	0.914	64							
	U-3	8.5-10	2.85	19.7	110.8	92.5	0.822	65	1.41	2.2	43	19	24		CL
	U-4	13.5-15	2.85	16.3	121.7	104.6	0.611	72	3.40	3.7					
B-5	U-1	0.5-2		23.7	113.9	92.0	0.831	77							
	U-2	3.5-5		25.1	108.7	86.9	0.938	72							
	U-3	8.5-10	2.85	24.7	109.0	87.4	0.928	72	0.71	2.8					
	U-4	13.5-15	2.85	14.3	97.7	85.4	0.972	40	1.45	2.1					
	U-5	18.5-20		12.2	98.9	88.2	0.911	36							
B-6	U-1	0.5-2	2.85	22.2	120.8	98.9	0.704	85	1.29	3.6					
	U-2	3.5-5		25.9	113.5	90.1	0.869	81							
	U-3	8.5-10	2.85	25.0	112.2	89.8	0.876	77	0.91	2.7					
	U-4	13.5-15		25.7	109.4	87.0	0.936	74							
B-7	U-1	0.5-2		19.5	124.3	104.0	0.620	85							
	U-2	3.5-5	2.85	24.6	114.1	91.6	0.840	79	0.97	4.9					
	U-3	8.5-10	2.85	25.9	108.0	85.8	0.963	73	1.24	1.7					
	U-4	13.5-15	2.85	24.4	107.9	86.7	0.943	70	1.13	1.7					
	U-5	18.5-20		25.8	111.6	88.7	0.900	77							

